

Chemistry	Group-II	PAPER: I
Time: 20 Minutes	(OBJECTIVE TYPE)	Marks: 17

Note: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1- An ionic solids are characterized by:

- (a) Low melting point.
- (b) Good conductivity in solid state.
- (c) High vapour pressure.
- (d) Solubility in polar solvents. ✓

2- Which one of the following molecules has zero dipole moment:

(a) H ₂ S	(b) SO ₂
(c) H ₂ O	(d) CH ₄ ✓

3- Molarity of pure water is:

(a) 45.5	(b) 55.5 ✓
(c) 65.5	(d) 75.5

4- Photochemical reactions are usually:

(a) Zero order ✓	(b) First order
(c) Second order	(d) Third order

5- One mole of SO₂ contains:

(a) 6.02×10^{23} atoms of oxygen	(b) 18.1×10^{23} molecules of SO ₂
(c) 6.02×10^{23} atoms of sulphur ✓	(d) 4 gram atoms of sulphur

6- Rainwater is:

(a) Slightly acidic ✓	(b) Slightly basic
(c) Neutral	(d) Highly basic

7- Solvent extraction is an equilibrium process and is controlled by:

(a) Law of mass action	(b) Distribution law ✓
(c) Amount of solute used	(d) Amount of solvent used

8- For the given process, the heat changes at constant pressure (q_p) and constant volume (q_v), are related to each other as:

(a) $q_p = q_v$ (b) $q_p < q_v$
(c) $q_p > q_v$ ✓ (d) $q_p = q_v / 2$

9- Stronger is the oxidizing agent, greater is the:

(a) Oxidation potential (b) Reduction potential ✓
(c) Redox potential (d) EMF of cell

10- Quantum number values of 2p orbitals are:

(a) $n = 2, l = 1$ ✓ (b) $n = 1, l = 2$
(c) $n = 1, l = 0$ (d) $n = 2, l = 0$

11- Number of isotopes of arsenic are:

(a) 1 ✓ (b) 2
(c) 9 (d) 11

12- Rutherford's model of atom failed because:

(a) The atom did not have a nucleus and electrons.
(b) It did not account for attraction between protons and neutrons.
(c) It did not account for the stability of the atom. ✓
(d) There is actually no space between nucleus and electrons.

13- Boiling point of water at Mount Everest is:

(a) 69°C ✓ (b) 78°C
(c) 98°C (d) 45°C

14- Bond energy of hydrogen (H_2) molecule is:

(a) 470 kJ mol^{-1} (b) 450 kJ mol^{-1}
(c) 436 kJ mol^{-1} ✓ (d) 415 kJ mol^{-1}

15- Partial pressure of oxygen in air is:

(a) 110 torr (b) 112 torr
(c) 114 torr (d) 159 torr ✓

16- An excess of aqueous silver nitrate is added to aqueous barium chloride and precipitate is removed by filtration, what are main ions in the filtrate:

(a) Ag^+ and NO_3^- only (b) $\text{Ag}^+, \text{Ba}^{2+}$ and NO_3^- ✓
(c) Ba^{2+} and NO_3^- only (d) $\text{Ba}^{2+}, \text{NO}_3^-$ and Cl^-

17- The molal boiling point constant is the ratio of the elevation of boiling point to:

(a) Molality ✓ (b) Molarity
(c) Mole fraction of solute (d) Mole fraction of solvent